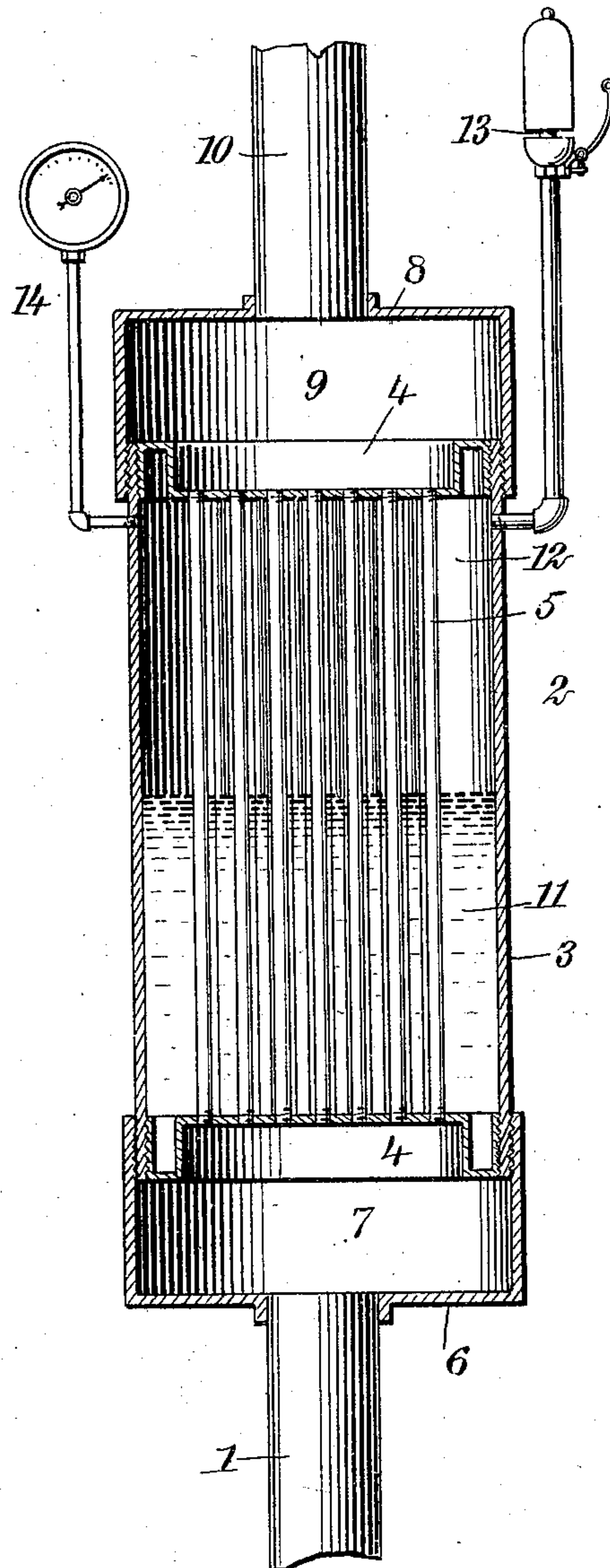


No. 842,744.

PATENTED JAN. 29, 1907.

M. ZWICKL.
MUFFLER AND WHISTLE DEVICE.
APPLICATION FILED JUNE 13, 1906.



WITNESSES

L. Sanford Hensley

J. H. Hume

INVENTOR

Max Zwickl

BY *Mum Co*

ATTORNEYS

UNITED STATES PATENT OFFICE.

MAX ZWICKL, OF NEW DURHAM, NEW JERSEY.

MUFFLER AND WHISTLE DEVICE.

No. 842,744.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed June 13, 1906. Serial No. 321,508.

To all whom it may concern:

Be it known that I, MAX ZWICKL, a citizen of the United States, and a resident of New Durham, in the county of Hudson and State of New Jersey, have invented a new and Improved Muffler and Whistle Device, of which the following is a full, clear, and exact description.

This invention relates to whistles, and is intended to be especially useful for small water-craft propelled by explosion-engines. Such water-craft must use a whistle for signaling purposes, and these are commonly blown by compressed air. The use of compressed air, however, has a serious disadvantage, in that there is no visible signal when the whistle is blown, so that the navigators of other craft have difficulty in locating the signal.

The object of this invention is to produce a device adapted to be used in connection with an explosion-engine which will enable the steam-whistle to be operated when desired.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawing, forming a part of this specification, which is a sectional side elevation of the improved device.

Referring more particularly to the parts, 1 represents the exhaust-pipe of an explosion-engine. Upon this exhaust-pipe I attach the muffler and whistle device 2. This device has a substantially cylindrical body 3, preferably formed of a piece of pipe, the same being internally threaded, so as to receive inwardly-offset tube-sheets 4. Between these tube-sheets a plurality of tubes 5 are arranged, as shown. The lower extremity of the body 3 of the device is threaded externally to receive a lower head or cap 6, which extends well below the body, as indicated, so as to form an inlet-chamber 7, into which the exhaust-pipe 1 admits the exhaust-gases from the explosion-engine. On the opposite end of the body 3 there is attached an upper cap or bonnet 8, which is threaded to the end of the body, as shown, and under this cap there is formed an outlet-chamber 9. As indicated, the tubes 5 open communication between the inlet-chamber 7 and the outlet-chamber 9, so that the gases from the exhaust-pipe 1 may pass through

the tubes and escape from a pipe 10, passing through the cap 8, as indicated.

Within the body 3 of the device a quantity of water 11 is placed, as shown, above which the interior of the body constitutes a steam-space 12. In communication with this steam-space a whistle 13 is attached and a steam-gage 14, which indicates the pressure.

As the exhaust-gases from the explosion-engine pass through the tubes 5 they heat the water 11 above the boiling-point, so that steam is generated at a sufficiently high pressure to blow the whistle. The pressure within the steam-space is indicated by the gage, and, if desired, a safety-valve is attached to relieve any excess pressure which may be developed. With this arrangement the whistle 13 may be blown at any time to constitute a good signal, the escaping steam being plainly visible. The device operates as a muffler for the explosion-engine, so that the reports from the explosion are choked and substantially inaudible. On this account it will be seen that the tubes 5 perform the double function of heating the water 11 and muffling the sound of the explosion-engine.

While this invention is intended to be used especially for the purpose described, it can be used under all circumstances near an explosion-engine for whatever purpose the engine is used. It is useful on water-craft of any description, on automobiles, in factories. In all situations the device constitutes an effective muffler, while affording means for blowing the whistle.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A pipe constituting an exhaust from an explosion-engine, in combination with a steam generating and retaining device constituting a muffler, and a whistle adapted to be blown by the steam generated by said device.

2. In combination, a pipe adapted to take the exhaust from the explosion-engine, a device attached to said pipe and adapted to muffle the explosions of said engine, said device having a water and steam retaining space adapted to be heated by the gases, and a whistle adapted to be blown by steam generated in said water-space.

3. A pipe constituting an exhaust for an explosion-engine, in combination with a

steam generating and retaining device having a water-space, and a plurality of tubes passing therethrough and through which the gases from the explosion-engine may pass,
5 and a whistle adapted to be blown by the steam generated in said water-space.

4. In combination, a body having a plurality of tubes passing therethrough, caps attached to the ends of said body and presenting
10 ing chambers into which said tubes open,

and a whistle in communication with the interior of said body, and cutting off the escape of steam therefrom.

In testimony whereof I have signed my name to this specification in the presence of
15 two subscribing witnesses.

MAX ZWICKL.

Witnesses:

F. D. AMMEN,

JNO. M. RITTER.